

1 WHAT IS CLAIMED IS:

1 1. A method of modulating transcription in a plant, the method
2 comprising introducing into the plant a recombinant expression cassette comprising a
3 promoter sequence operably linked to a heterologous polynucleotide sequence encoding a
4 MYB polypeptide.

1 2. The method of claim 1, wherein the polynucleotide is at least about
2 30 nucleotides in length.

1 3. The method of claim 1, wherein the polynucleotide is as shown in
2 SEQ ID NO:1.

1 4. The method of claim 1, wherein the polynucleotide is a shown in
2 SEQ ID NO: 3.

1 5. The method of claim 1, wherein the polynucleotide encodes a
2 MYB polypeptide as shown in SEQ ID NO: 2.

1 6. The method of claim 1, wherein the polynucleotide encodes a
2 MYB polypeptide as shown in SEQ ID NO: 4.

1 7. The method of claim 1, wherein the plant is a cotton plant.

1 8. The method of claim 7, wherein the promoter directs expression of
2 the polynucleotide sequence in cotton fibers.

1 9. The method of claim 1, wherein the modulation of transcription
2 results in alteration of root hairs.

1 10. The method of claim 9, wherein the promoter sequence directs
2 expression in roots.

1 11. A recombinant expression cassette comprising a promoter
2 sequence operably-linked to a heterologous polynucleotide sequence encoding a MYB
3 polypeptide.

1 12 The expression cassette of claim 9, wherein the polynucleotide is at
2 least about 30 nucleotides in length.

1 13. The expression cassette of claim 11, wherein the polynucleotide is
2 as shown in SEQ ID NO:1.

1 14. The expression cassette of claim 11, wherein the polynucleotide is
2 a shown in SEQ ID NO: 3.

1 15. The expression cassette of claim 11, wherein the polynucleotide
2 encodes a MYB polypeptide as shown in SEQ ID NO: 2.

1 16. The expression cassette of claim 11, wherein the polynucleotide
2 encodes a MYB polypeptide as shown in SEQ ID NO: 4

1 17. The expression cassette of claim 11, wherein the promoter directs
2 expression of the polynucleotide sequence in cotton fibers.

1 18. The expression cassette of claim 11, wherein the promoter
2 sequence directs expression in roots.

1 19. A plant comprising the expression cassette of claim 11.

1 20. The plant of claim 19, which is a cotton plant.

1 21. An isolated nucleic acid molecule comprising a sequence at least
2 about 70% identical to SEQ ID NO: 5.

1 22. The isolated nucleic acid molecule of claim 21, which comprises a
2 sequence as shown in SEQ ID NO: 5.

1 23. An isolated nucleic acid molecule which encodes a polypeptide as
2 shown in SEQ ID NO: 6.

1 24. An isolated nucleic acid molecule comprising a sequence at least
2 about 70% identical to SEQ ID NO: 7.

